DOCUMENT RESUME

ED 080 657 VT 020 268

AUTHOR	Stevenson, William W.; Ward, William Gary
TITLE	Conducting Evaluation Within a State: Information for State Leaders.
INSTITUTION	Ohio State Univ., Columbus. Center for Vocational and Technical Education.
SPONS AGENCY	National Inst. of Education (DHEW), Washington, D.C.
REPORT NO	Inf-Ser-72
PUB DATE	73
NOTE	30p.
AVAILABLE FROM	Product Utilization Section, The Center for Vocational and Technical Education, 1960 Kenny Road, Columbus, OH 43210 (One of a set, prices available upon request)
EDRS PRICE	MF-$0.65 HC-$3.29
DESCRIPTORS	*Evaluation Criteria; *Evaluation Methods; Guidelines; Literature Reviews; Program Costs; *Program Evaluation; *Research Needs; Validity; *Vocational Education
IDENTIFIERS	*Program Implementation

ABSTRACT

Following a review of over 350 evaluation-related reports as well as written evaluation activities by the National Advisory Council, state advisory councils, and over 30 state departments of education, three criteria were proposed as methods to be used by state education leaders in assessing the worth of an existing or proposed evaluation system. These criteria include determining: (1) the validity of the system or how accurately the data collected by the system reflects the true vocational education situation of the state, (2) the effects or impact of the information generated by a system on the local program, and (3) the cost of the system. These criteria are discussed along with techniques of evaluation, research priorities, and methods of implementing an evaluation system. (SB)

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CONDUCTING EVALUATION WITHIN A STATE:

INFORMATION FOR STATE LEADERS

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1973

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FOREWORD

State leaders faced with operational problems of evaluation in vocational and technical education will find this publication helpful.

The authors' review of literature has addressed itself to: terminology, use of evaluation, pressures for evaluation, and conflicts in evaluation. Basic criteria are provided for use in selecting an evaluation system. In conclusion, the authors indicate directions for future research in the area of evaluation.

The profession is indebted to William W. Stevenson and William G. Ward, Division of Research, Planning, and Evaluation, Oklahoma State Department of Vocational and Technical Education, for their scholarship in the preparation of this report. Recognition is also due Jerome Moss, Jr., University of Minnesota; and Frank H. Wimer, Washington State Coordinating Council for Vocational Education, for their critical review of the manuscript prior to final revision and publication. Wesley E. Budke, assistant director, Information Utilization, The Center, coordinated the publication's development.

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INTRODUCTION

After reviewing the written vocational evaluation activities of the National Advisory Council, the states' advisory councils, and over 30 state departments of vocational education, as well as reading over 350 published works on evaluation, it is our judgment that state leaders who are considering the implementation or revision of an evaluation system should review: (1) the validity of any currently operating or proposed system, (2) the effects or impact of the information generated by a system on the local program, and (3) the cost of the system. An investigation of the validity, effects, and cost will aid a state leader in judging the worth of an evaluation system.

The three criteria or guidelines are proposed as methods of gaining additional decision-making information and should not be considered as the only sources of information.

The needs of the practitioners in vocational education indicate that criteria for judging an evaluation system are needed. While there is sufficient evidence to show that validity, effects, and cost are functional as criteria, there is also the hope that this paper will stimulate others to thoroughly examine these criteria and generate new and better methods for assessing the worth of an evaluation system.

After the problem statement, a micro-review of the literature is presented and includes sections on terminology, uses of evaluation results, pressures for evaluations, and the potential for conflict in evaluation. A detailed explanation of validity, effects, and cost follows. Then, strategies for the implementation or refurbishing of a system are offered. A section on research priorities is presented and a summary completes the written portion of the paper. An appendix is included which gives addresses of personnel responsible for evaluation in some 30 states. Throughout the paper, current evaluation systems are referenced and can be located in the selected bibliography. An additional bibliography lists some of the items read but not directly referenced.

PROBLEM STATEMENT

Evaluation procedures and techniques are in a period of transition from first-thought approaches to more mature field-tested systems. Thus state leaders are currently faced with a myriad of evaluation systems, and to judge which best fulfills the needs of their state is not a simple task. The pressures and needs for evaluation and its cohort accountability are present, and many are faced with selecting or approving the design of a new system or with refurbishing or defending an already existing system.

These problems require state leaders to make practical decisions on the worth of an evaluation system. The careful selection and use of the criteria for assessing a system will greatly increase the probability of success. One is faced with evaluating an evaluation system, a problem this paper is designed to address.

MICRO-LITERATURE REVIEW

Information theorists refer to error in communications as noise. The overall literature on evaluation is extremely noisy, has wide gaps, is difficult to follow, is voluminous and contradictory, and can leave a reader in a state of frustration. It is easy to understand how phrases such as "raped by rhetoric" and "information overloading" could be applied to this literature.

We have attempted to reduce, to its most communicable form, those elements of the documents judged most usable to the practitioner. Our review was based on a computer and hand search of the Educational Resources Information Center (ERIC), a study of the Review of Educational Research (RER) particularly the April, 1970 issue, several professional publications, federal laws, reports of research coordinating units, and state evaluation activities. It is highly probable that we missed several important publications. However, based upon those that were available to us, the following review is presented.

Terminology

The word evaluation appears generally to represent the phenomenon of examining data that purports to reflect a situation and judging whether or not that situation is acceptable. An evaluation system in its simplest terms refers to a routinized procedure for the collection, storage, synthesis, packaging and communication of evaluation data to the decision-makers who, based on a criterion, judge the acceptability of the situation. The system is completed when the results of the judgments are returned via a feedback loop for use by other decision-makers for causing change in the situation. Validity is used as a measure of how accurately the data collected by the system reflects the true

situation. The term effects is defined as a measure of the impact of the system on the situation. The cost of the system means somewhat more than just the outlay of resources for its operation; it relates more directly to the prorating of that cost to the effects of the system.

We define process evaluation as a measurement of the efficiency of the vocational program from the point of input of resources to the point of output of students; product evaluation as a measure of the success of the trained student procuring and succeeding on a job congruent with his training; accountability as measuring results achieved against the resources expended and further assigning the responsibility for achieving results to specific role incumbents. We have not been able to attach firm definitions to cost-efficiency, cost-effectiveness, and cost-benefit, except to say that each, respectively, deals somewhat with a ratio of resources to training activities, products to total cost of program, and the payback to society for its investment in education.

Uses for Evaluation

While many automatically connect evaluation with accountability, there appear in reality to be many other uses of evaluation results. One is to fulfill the requirements of state and federal rules and regulations; another is for program improvement. Further, there are public relations and competitive status for federal funding. There are many uses for evaluation results; however, this is not to say that all results should immediately be made public. Some results are in-house items and should be used to correct situations prior to public disclosure.

Pressures for Evaluation

Vocational education is conceptualized as an institution that was created by the interaction of our society, culture, government, and already existing institutions for the purpose of fulfilling a dynamic need in our civilization--the training of individuals for successful entry into the world of work. Thus, from any of those areas, or most likely all of them, could come the demand for justifying the expenditures of tax dollars currently being allocated to vocational education. Further, the call for accountability could originate internally from vocational education. Many vocational educators compare the current "high tide of federal financing" enjoyed by vocational education to the situation that encompassed science education after Sputnik in 1957. Their call for accountability is based on the assumption that if we justify expenditures they will not be removed, as was the case in science education. Intermingled with accountability is the drive by most professionals involved in vocational education for continual improvement and upgrading of all vocational programs.

Conflict in Evaluation

The federal and state governments have been attaching evaluation and accountability rules and regulations to their allocations, taxpayers have been rejecting local bond issues, and writers in vocational education have been issuing

stern recommendations in favor of evaluation and accountability. On the other hand, teachers have been strengthening the barriers of their professional organization against the encroachments of those parties on the control of their daily work. The following attempts to reflect the potential for conflict.

Swanson (1970) feels the objectives of education, which reflect cultural values, are now economic. Lessinger (1970) has observed that "an important change has taken place in what Americans expect of their public schools--today, the questions focus on results obtained for resources used." The "taxpayer revolt" and the present difficulty of passage of bonds and levies may show evidence of the increased concern placed on results of tax money investments by the population.

The Coleman Report (Schwartz, 1970) empirically reinforces the economic value by indicating that inputs are not accurate measures of schools' contributions to civilization. Educators, in the past, had been comfortable utilizing input data as proof of worth. With the advent of the 70's, the reflection of the economic value by political leaders increased. Peterson (1971), then Chairman of the Educational Commission of the States, wrote, "We have measured the quality of education on how much money is pouring into it rather than on results. It is time to stop and assess where we are and where we are going." President Nixon, in his 1970 Message on Educational Reform, said, "We have, as a nation, too long avoided thinking of the productivity of schools." The mood may well have been expressed when United States Representative Quie said, "I think we are going to demand accountability in education from now on in Congress" (Schwartz, 1970). Legislators in Pennsylvania, Oklahoma, Colorado, and other states have passed or are considering laws on accountability and evaluation. Such a reflection of the public view by the political institutions is resulting in a "demand for control."

In contrast, teachers are seeking increased autonomy and self-direction. The increase in advanced degrees, technical competencies, number of male teachers support of teachers' organizations, and an intrinsic need to be recognized as a full professional were listed by Boyan (1967) as reasons for teacher militancy. The 1970 National Education Association Assembly resolutions 70-5 and 80-17 ("N.E.A. Resolutions, 1970") and the National Study Conference (Socker and Wilson 1971) indicate that teachers feel: (1) the expertise of professional educators is essential when school programs are evaluated, (2) school evaluation by profit-making non-professionals and attempts to transform National Assessment results (see Compact, April, 1971) into national standards must be resisted, and (3) the teacher should be held accountable as a professional to everyone.

Teachers further expressed the viewpoint that they will only be held fully accountable when: (1) the public supports education commensurate with its expectations, (2) conditions of teachers' services are jointly defined by boards and local teacher associations, (3) the school setting is conducive to teaching and learning, and (4) the teaching profession controls its own internal affairs. Teachers were urged to discuss the situation with administrators and boards and to "adopt a strong resolution on accountability and professional autonomy." Darland's observation (Socker and Wilson, 1971) that the teacher is "a most likely candidate for scapegoat of the 1970's," might express the teachers' fears concerning evaluation and accountability.

Intertwined with the teachers' drive for autonomy is the heightened sensitivity of local schools to increased state and federal involvement. The recent federal court's decisions on the lack of parity education that results from the current property tax system of financing schools was viewed by some as a final blow to local control. The emphasis on evaluative activities could be considered as a move toward additional state and federal control.

Assuming this is true, a state leader could be caught between the demand for control on one side and the drive for autonomy on the other. However, this is not a new situation for state leaders. Further, these reviewers raise the question: Just how widespread are the conditions for conflict? It would seem prudent for a state leader to investigate the potential for conflict between teachers and their professional organizations, school districts, and state departments. The situation may or may not exist.

An example may clarify this proposition. Under the 1968 Amendments (U.S. Congress, 1968) to the 1963 Vocational Education Act, each state and trust territory must establish an advisory council. One of the primary duties of this council is to yearly evaluate the programs, services, and activities of the vocational offerings of its state and to report those findings to the National Advisory Council by October of each year. The National Advisory Council in turn generates a report to the U.S. Commissioner of Education. That procedure is the federally mandated evaluation of vocational education. However, in the National Advisory Council's Fifth Annual Report (1971), they wrote in essence, "Is anyone listening to our reports?" This is an example of a required evaluation system, which apparently is not used in the decision-making process by those who required it. It will be of interest to see the effects of that system on new legislation.

Another proposition arises when one considers the vocational teacher. There is some evidence to indicate that reimbursed teachers are quite skillful in "playing off" a state department representative against a local school administrator in order to achieve the resources and policies they desire for their program. A seasoned vocational teacher might be very enthusiastic about the visitation of an evaluation team.

These propositions were not made for the sake of contradicting the information presented under the Conflicts in Evaluation section but rather to illustrate the difference in what organizations say and what people do.

CRITERIA FOR SYSTEMS

There are at least three characteristics of a system which could be measured to determine the worth of that system: (1) validity, (2) effects, and (3) cost. The level or score of those measures alone will not tell a state leader whether he should accept or reject a system. The situation in each state and the purposes for which the evaluation results will be used must be considered when one establishes an acceptance level for each characteristic.

Validity

The first question we should ask in appraising a system is "Does the system collect the types of information we can use in realistically understanding the situation?" The most appropriate guidelines for answering that question are prior knowledge and common sense. There are four broad areas a comprehensive system could investigate: (1) the vocational training needs of the state, (2) the efficiency of the evaluation process, (3) the success of the product, and (4) the congruency of the product to the needs of a state. Inside each area a state leader could specify the exact information he desires, such as, the number of minority group members currently enrolled, graduated, or placed on jobs. In most of the systems reviewed for this paper, these types of questions were normally generated by a committee; thus establishing a type of face or construct validity.

After those decisions are made, one then becomes concerned with the soundness of the methodology used in gathering the data and the accuracy of the measuring instruments used to collect that data. The way the information is collected, called design, and the accuracy of the measuring instruments, called validity and reliability, could probably best be investigated by a researcher experienced in collecting data on a large scale. However, it would seem wise for the state leader to have some knowledge about the design and instrumentation currently being used and some of the problems one might encounter.

Vocational Training Needs in a State. In measuring this first broad area of concern, the Occupational Training Information System (OTIS) - (Oklahoma State Department, 1972) can be used to measure specific job market needs. In cooperation with a state's employment security agency, it collects current and predicted job demand information on designated occupations from business and industry. This is accomplished via interviews and mail-out questionnaires to a representative sample of employers. On the other side, the supply of skilled trainees and their availability rate is collected from public and private training programs. The supply and demand are then interfaced, thus generating a numerical list of areas where training is needed. OTIS measures objective visable items, such as jobs which can be directly measured. Suppose under the vocational training needs of a state, one desired information of a more subjective nature, thus more difficult to measure, for example, "What are the current values of the disadvantaged students toward work?" That would involve a study of work ethic, religion, and subcultural values, et cetera, which would require special instrumentation, field tests, and pilot studies. Generally one can place greater confidence on the results of an objective study than on the results of a subjective study.

Efficiency of the Evaluation Process. Process evaluation was found to be the most common component of the systems now used by the states. There are at least four broad procedures currently being used to identify those occurrences that cause quality (Stevenson, 1970): (1) school visitations by judges, (2) self-evaluation by the local school, (3) utilization by the state department of already reported data, and (4) cost analysis. The validity of many of those procedures is questionable, yet there is insufficient evidence to say such methods are wrong.

In school visitations by judges, the most common measuring devices used are rating scales or category instruments. They are used to record the judge's observations on equipment, facilities, educational practices; and at times, teacher behavior, cost, administration, curriculum, and philosophy. Rating scales are classified as high-inference (highly subjective) measures by Rosenshine (1970) and usually require responses on a 1-5 or 1-7 point Likert-type scale. The disadvantages of rating scales are: the halo effect, error of central tendency, leniency error, lack of a common referent for scoring calibrations such as "excellent" or "seldom" (Mouly, 1969), and the difficulty of translating the results of the instruments into specific behavior. However, rating scales do offer a great deal of flexibility, and when validity and inter-judge reliability (consistent agreement on the meaning of responses) are established, they can be quite useful as data gathering instruments. Few of the reviewed rating instruments showed any evidence of the establishment of validity or reliability.

Category systems are classified as low-inference (more objective) measures by Gage (1969) because the items focus on specific, denotable, relatively objective responses which are recorded by the observers as frequency counts under predetermined blocks of interest. Major disadvantages include the fact that judges require training to use the instrument, the observations on the more subjective portions may have to be reported several times, and while several category instruments already exist for observing teachers, none could be located that will measure the overall program.

Two problems arise in interpreting results from rating scales and category instruments. The data are usually of the nominal or low ordinal level, thus limiting the available tools of statistical analysis (Kerlinger, 1964). Further, to what criterion will the results be compared? What is an acceptable level?

While the current level of measurement in the classroom is inexact, there are other benefits to the visitation of judges. One is that the teacher or administrator who knows the judges are coming may correct, prior to the visit, items he knows are wrong. The other is that if the judges are university teachers, state department personnel, advisory council members, and the like, they might, due to the visit, become more attuned to the problems of the local schools.

An alternative to the school visitation by judges is the completion of a measuring device by the state supervisor or coordinator, usually in cooperation with the local instructor. Alaska and Virginia have used this technique.

Self-evaluation by the local school and the reporting of those results to the state department is another way to gain information about the process of education. This procedure is typified by Byram's (1971) approach of a locally-directed evaluation and the Kentucky project (University of Kentucky, 1970). The states of Arkansas, Connecticut, Iowa, Mississippi, Nevada, Tennessee, and Vermont have used similar procedures. An alternative method is the requiring of local programs to report empirical data on students and programs. This alternative is exemplified by Starr (1970) and Frazier (1971). The validity of these techniques are in direct proportion to the accuracy of the measuring device and the attention to detail of the local school.

The analysis of data already being reported by the local schools is a third method for gaining process information. While this would probably not reveal a great deal of information, it could be used to supplement a system. These types of information should definitely be reviewed prior to the operationalization of a system in order to avoid collecting the same information twice. Here again, the validity is in direct proportion to the accuracy of the measuring device and the attention to detail of the local school. The fourth and newest technique for gaining information on the process is cost analysis. Cost studies normally associate the cost of the process to the product of the program, and depending on the technique, may be called cost efficiency or cost effectiveness (Kaufman, 1968). Chumbley and Hopkins (1972) have accomplished state-wide average cost of selected programs. This allows one to compare the cost of the process of one program to a state-wide average of the same type of program, and while generating valuable planning information, also opens the door for establishment of a Program, Planning, and Budgeting System. The validity of cost analysis is in the process of becoming well established and has the potential for developing into an objective system of evaluation. However, it appears that additional types of information on the process may be necessary for a fuller understanding of the situation. According to Sjogren (1970), the works of Warmbrod (1968), Kotz (1967a, 1967b), and Thomas (1969) are excellent sources for learning about the relationship of economic concepts to educational evaluation.

The efficiency of state departments of education and other service support units are, in effect, being evaluated when the local schools are evaluated. Yet, it is difficult to "break-out" (Barro, 1970) the exact contributions of those agencies. If the state department has not yet adopted a Program, Planning, Budgeting and Evaluation System, or a Management by Objectives System, then Swanson (1967a-b), Lee (1967), Oregon...(1968), and Rice (1968) could be utilized as foundations for internal evaluation.

Product Success. We move now from the validity of process evaluation to a study of the third broad area of product evaluation. Hard empirical measures of the outputs of vocational education have been developed in the form of student follow-up (Frazier, 1971; Cox, 1969; or Schultz, 1969), job relatedness (Wheeler, 1971), cost analysis (Hopkins, 1970), and OTIS (Oklahoma State Department, 1972). The states of Arizona, Oklahoma, Colorado, Florida, Iowa, Michigan, Minnesota, Mississippi, Missouri, Nebraska, New York, Massachusetts, Ohio, South Carolina, South Dakota, Tennessee, Wisconsin, and many others currently follow up students for the purpose of obtaining data on output. The technique of moving past job placement and on to how well the training received is related to the obtained job is typified by Wheeler (1971) and variations have been used in Florida, Nebraska, and Ohio. There is also the possibility of using standardized tests (Davis, 1968), labor union evaluations, and licensing board tests as measures of efficiency/effectiveness. The technique one selects depends upon what one considers as a measure of quality (Stevenson, 1970).

The validity of most student follow-ups are not as high as one might wish. There are generally two ways for collecting data; both require the maintenance of records on permanent addresses or homes for each student. One is to require the teacher to contact the graduates on, for example, a one, three, and five-year follow-up. The second is direct mailing from a state department to the

student. Validity checks have indicated that while a few teachers tend to manipulate the results, the graduates, when responding on questionnaires, tend to inflate the aspects of their current jobs. Students also have a lower return rate on direct mail questionnaires. While neither follow-up system is perfect, they are the best that have yet been developed. One should inspect the questionnaire used to determine if it gathers the types of information desired, such as, job relatedness, mobility, salary, promotion, and recommendations for program change. Further, it would be advisable to conduct a "bias check" on the non-respondents. Usually a few graduates who did not respond can be located by phone. It is indeed interesting to learn why some do not respond to questionnaires.

If cost data were collected during the process evaluation, it is now possible to compute a cost per graduate placed. It appears that soon, based on current research and development programs, one may even be able to generate, with some realism, a cost-benefit analysis based on the graduates placed and resource outlay.

Needs of the State and the Product. The measuring of the congruency of the outcomes or products of the vocational programs to the needs of the state is the last area to be discussed under validity. A culmination of all the measures are now compared--needs against output. With the exception of attempting to compare unlike items, or inferring too much from subjective or poor measures, little can go wrong in connection with validity. The system has arrived at a point where the state leaders, based on the criteria of success that they established for the vocational program, can judge how well those criteria were met. Stake (1970) points out that "success does not mean hitting the bulls-eye; success means coming acceptably close to a valued target."

We have invested several pages in validity because without validity there is little need for concern with effects and cost. Yet, validity alone does not make a realistic system. The effects and cost are vitally important criteria.

Effects

The concept of effects can be tailored to assist in measuring the worth of any system. Essentially it is a method of measuring the impact of the system on the situation in the local program. For example, if the purpose of the evaluation system is to cause program improvement, then one could measure the changes in the situation which were caused or influenced by the results of the evaluation system. If the purpose was public relations, one could measure how many more people in a specific population have adopted a more favorable attitude toward vocational education. Generally, whatever the purpose, an evaluator or researcher can devise an instrument that will test how well the system fulfilled its purpose.

There are at least three other factors that, while extraneous to the data collection aspects of the system, can threaten a realistic appraisal of the effects. The first deals with the packaging of evaluation results, another with the method of delivering those results, and the third is concerned

(depending on the system) with assisting the local teachers and administration in implementing the recommendations of the evaluation. On the packaging of evaluation results, the literature is poorly developed and only suggests that the communication be kept short and simple.

The procedure of delivery or "feeding back" all pertinent data for decision-making is typified by the Massachusetts Information Feedback System for Vocational Education (Conroy, 1969) and Rzonca and Tomlinson's (1971) Educational Data System. These procedures logically prescribe methods for collecting, storing, and returning data, as desired, to the decision-maker. Copa (1971) establishes guidelines for decision-making when a data bank is used and Coster and Morgan (1969) discusses the role of evaluation in the decision-making process.

When assisting the local teachers and administration in implementing the recommendations, one ventures into the area of supervision, which is, by its nature, an interpersonal situation laced with tradition, policy, rules, and usually problems. However, to steer away or to be timid in helping the local program introduce change is to have the entire system fail because of a lack of follow-through.

Cost

The computation of the cost for a system has been simplified and about the only problem is to decide the exact point at which to stop charging-off cost. Answers are needed for questions such as, should a portion of the evaluator's bosses' salaries be charged off as supervision of the system, or if the judges used in school visitations are state department personnel, should a portion of their salaries be charged-off to these systems. It would appear that decisions of this nature would depend on the situation, and in reporting the cost, it would be more communicable if the state identified exactly where they stopped charging-off cost. That would allow states to compare cost by simply adjusting the cost to where both were measuring the same items.

There appear to be seven areas of cost: Salary and benefits of the evaluator and his professional staff per year; travel of staff and judges; salary and benefits of supportive personnel per year or a proportion based on contact time (it should include secretaries, computer service personnel, consultants, and might include some supervision and judges' salary charge-off); depreciation cost of offices or amount of rent (depreciation on government buildings could be computed by a straight-line depreciation); depreciation cost and rental cost of equipment would include items such as computer time and a depreciated per year cost of equipment such as typewriters, calculators, and furnishings; operation and maintenance of offices would include cost of office supplies, utilities, janitor supplies and maintenance of the office, printing cost, and phone; insurance on office and content.

After those are totaled and a one year's cost is computed, the cost to the effects measure could then be prorated; such as, if the measure was amount of change, each change cost could be determined. For those systems

that process all of their information through a computer, a cost per record could be calculated. There are several comparisons to be generated with the cost data.

STRATEGIES FOR IMPLEMENTATION

Since each state faces unique political and financial situations, we can do little in this section except interface some current management techniques with some successful methods of implementation and draw from that marriage a few guidelines for implementation. Each state leader will be able to enrich the following guidelines from his own experience.

Whether the state desires to begin an entirely new evaluation system or refurbish an already existing system, one is involved with change. The change process normally requires formative leadership as opposed to the somewhat more routine manner of administration or management (Carver and Sergiovanni, 1969; Halpin, 1958). The guideline here would appear to be that those persons who hold the uppermost job positions in the state's educational organizations with the backing of their power structure must openly commit themselves to the acquisition of a valid, effective, and economical evaluation system. However, prior to the open commitment, it would be wise for the state leader to informally canvas the opinion leaders (Bice, 1970; Teague, 1971) of those groups (teachers, administrators, professional organizations) who will have a vested interest in evaluation. It might allow for a measure of the opposition, and if it is massive, one could take appropriate steps. Generally the gaining of those opinion-leaders' willingness to cooperate can be accomplished by offering inducements, based on what they value, to gain their contribution of cooperation (Barnard, 1938). Once the commitment and support for evaluation has been developed, the decisions as to the manner of evaluation and its financing must be made.

Group decision-making, or at least group input to decision-making, appears to be the current method in education for arriving at decisions that effect a very wide spectrum of education in a state. This collegial decision-making has inherent within itself a way to insure that the individuals within the states' organizations will support the rules and regulations of those organizations. The making of rules by individuals, hopefully opinion-makers from all levels, tends to cause the groups they represent to enforce and abide by the organizational rules. In this case, it means that if teachers, administrators, board and advisory council members, via the democratic process, arrive at the methods--or <u>how</u> to evaluate based on the three criteria of validity, effects, and cost--they will be more inclined to support the evaluation system developed by those groups they represent. This further means that the results of the system will be more closely regarded as a guide for change in the local programs.

The administrator attempting to install an evaluation system should stress the positive aspects of effective evaluation. The system can contribute to the improvement of programs from the aspect of all individuals involved. The evaluation system can support the teacher in his need for

improved facilities and equipment, stronger administrative support, better student selection procedures, and the like. The system can assist the local administrator in changes and improvements he wishes to make in programs. The evaluation report can be a useful tool to supervisors in working with teachers. Evaluation can help administrators demonstrate to the public and the legislature that honest efforts at accountability are taking place. If these benefits are stressed by those promoting evaluation, acceptance can be increased.

There are provisions in the state plan for evaluation costs. Many state advisory councils share their evaluation money with state departments, and in some cases (New York and Massachusetts) states have combined to operate evaluation programs. Other techniques for implementation may be located in Reynolds (1967), Divita (1968), and Swanson (1966).

PRIORITIES FOR RESEARCH

If the resources invested in evaluation are to have a long-range effect, then it is necessary to identify those activities in the process of education that cause quality. On the surface, this appears to be a type of research that begins with measuring the correlation between activities in the process and those measures of success in the product. The measures of success of the product are usually those items, such as placement or job relatedness, that are judged by state leaders as measures of quality. An example may clarify the question: Does the existence of local advisory councils correlate with a high placement rate? After several correlation studies have been replicated in several question areas, then we could begin explicit cause and effect studies; such as, "Does the existence of local advisory councils cause a high placement rate?"

The area of communication between practicing evaluators in each state is at an extremely poor state of development. A way for these practitioners to share their experience should immediately be developed.

Under the heading of Effects, we recognized the problems of packaging, delivery, and follow-through on evaluation results. These areas probably should be researched inside each state. The number of intervening variables and different situations faced by each would tend to preclude generalizing from one state to a dissimilar one.

An additional area of investigation is the location of the job position of the evaluator in the hierarchical organization of the state department. An evaluator would seem to require a certain degree of professional freedom in the measurement of educational activities. With very little evidence, it is felt that the degree of professional freedom is in proportion to the distance of the job position from the center of the organization. The closer to the center of the organization, the more the evaluator will be under the control of his superordinates. However, as the distance from the center of the organization increases, his authority decreases. What is the optimal location? Does it vary from state to state?

SUMMARY

This paper has specified three ways to evaluate an evaluation system. The first is the validity of the system which was defined as a measure of how accurately the data collected by the system reflects the true vocational education situation of the state. The second, called effects, was defined as a measure of the impact of results of evaluation on the vocational programs in a state. Third was the prorating of the cost of the system to the intended effect of the system or to a record-input cost.

It was further noted that the potential for conflict between the pressure for evaluation by elected officials and the drive for autonomy by teachers and local schools could place a state department of education in a position to draw fire from both sides.

Several current techniques of evaluation were discussed along with research priorities and methods of implementation. It appears that, on a whole, evaluation systems are in a state of transition from research development to full realistic use. Discretion must be used and flexibility must be maintained when a state leader operationalizes an evaluation system.

APPENDIX

Contacts by State

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Arizona:	Assistant Director for Supervision and Evaluation, State Department of Vocational Education, 1333 West Camelback Road, Phoenix, Arizona 85013
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California:	Research and Evaluation Consultant, Department of Education, Vocational Education Section, Research Coordinating Unit, 721 Capitol Mall, Sacramento, California 95814
Colorado:	Supervisor of Evaluation, State Board for Community Colleges and Occupational Education, 207 State Services Building, 1525 Sherman Street, Denver, Colorado 80208
Connecticut:	Research Coordination Unit, Bureau of Vocational Services, Division of Vocational Education, Connecticut State Department of Education, P.O. Box 2219, Hartford, Connecticut 06115
Delaware:	Supervisor, Occupational Research Section, State Department of Public Instruction, Dover, Delaware 19901
Florida:	Department of Education, Vocational Research and Evaluation Function, Tallahassee, Florida 32304
Illinois:	"Three Phase System for State-wide Evaluation of Occupational Education Programs." Bulletin No. 35-971. Program Approval and Evaluation Unit, 1035 Outer Park Drive, Springfield, Illinois 62706
Iowa:	Director, Career Education Division, Department of Public Instruction, Grimes State Office Building, Des Moines, Iowa 50319
Massachusetts and New York:	Evaluation Service Center for Occupational Education. Research Coordinating Unit Director, The University of the State of New York, The State Education Department, Bureau of Occupational Educational Research, Albany, New York 12224

Michigan:	Research Consultant, Department of Education, Bureau of Research, Lansing, Michigan 48902
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Mississippi:	Assistant Director, Program Planning and Evaluation, Department of Education, Division of Vocational and Technical Education, P.O. Box 771, Jackson, Mississippi 39205
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Nevada:	Department of Education, Vocational-Technical Education Branch, Carson City, Nevada 89701
New Hampshire:	Director of Research Coordinating Unit, Department of Education, Division of Vocational-Technical Education, Stickney Avenue, Concord, New Hampshire 03301
North Dakota:	State Office Building, Vocational Education, 900 East Boulevard Avenue, Bismarck, North Dakota 58501
Ohio:	The Center for Vocational and Technical Education, Division of Evaluation, The Ohio State University, 1960 Kenny Road, Columbus, Ohio 43210
Oklahoma:	Evaluation Coordinator, Oklahoma State Department of Vocational and Technical Education, 1515 West Sixth Avenue, Stillwater, Oklahoma 74074
Pennsylvania:	Bureau of Curriculum Development and Evaluation, Division of Evaluation, Department of Public Instruction, Box 911, Harrisburg, Pennsylvania 17126
South Carolina:	Assistant Director, Office of Vocational Education, State Department of Education, Columbia, South Carolina 29200
South Dakota:	Division of Vocational and Technical Education, State Capitol, Pierre, South Dakota 57501
Tennessee:	Coordinators of Program Planning and Evaluation, Department of Education, Division of Vocational-Technical Education, 205 Cordell Hull Building, Nashville, Tennessee 37219

Utah:	Planning Unit, Office of the Utah State Superintendent of Public Instruction, 1400 University Club Building, Salt Lake City, Utah 84111
Vermont:	Assistant State Director of Vocational Education, Department of Education, Vocational and Technical Division, State Office Building, Montpelier, Vermont 05602
Virginia:	Director of Vocational Education, State Board of Education, Richmond, Virginia 23216
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[1]Bibliographical entries followed by an ED number are generally available in paper copy or microfiche through the Educational Resources Information Center (ERIC). This availability is indicated by the abbreviations, MF for microfiche and HC for paper copy. Order from ERIC Document Reproduction Services (EDRS), P.O. Drawer O, Bethesda, Maryland 20014. Payment must accompany orders totaling less than $10.00.

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